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Original Research Article

Repeat Caesarean Section: A Clinical Study with Special reference to Maternal Morbidity and Mortality

Patar Jagannath[1], Malakar Himangshu[2], Pronamika Konyak[3], Balsri Ch Marak[4]
[1]Associate Professor, Department of Obstetrics & Gynaecology, Gauhati Medical College, Guwahati, Assam, India
[2]Registrar, Department of Obstetrics & Gynaecology, Gauhati Medical College, Guwahati, Assam, India
[3,4]Post Graduate Student, Department of Obstetrics & Gynaecology, Gauhati Medical College, Guwahati, Assam, India

***Corresponding author**
Pronamika Konyak
Email: prona.anon@gmail.com

Abstract: An attempt has been made to undertake to study maternal morbidity and mortality in 100 cases of post caesarean pregnancies keeping the objectives like risks of pregnancy, outcome of labour, maternal morbidity and mortality and foetal outcome in cases with history of previous caesarean section. The study was conducted on 100 selected cases in the department of Obstetrics & Gynaecology, Gauhati Medical College and Hospital, Guwahati who regularly attended outdoor and admitted at term, those who were booked in antenatal clinic but admitted as emergency and those who never attended the antenatal clinic but admitted as emergency, over a period of 1 year w.e.f January 2015 to December 2015. Out of 100 women, 32 cases were selected for vaginal delivery. Of them, 20(62.5%) had vaginal birth after caesarean (14 spontaneous, 4 forceps and 2 ventouse delivery). Repeat caesarean section were performed in 12(37.5%) cases after failure of vaginal delivery. Antepartum complications like anaemia (69.72%), antepartum haemorrhage (5.5%), pregnancy induced hypertension (2.75%), intrauterine growth retardation (2.75%), oligohydramnios (5.5%), postdatism (4.59%) and premature rupture of membrane (1.83%) were seen in this study. During labour, 5 patients had scar tenderness and 1 patient had postpartum haemorrhage. 1 patient died after ventouse delivery due to broad ligament haematoma. Maternal mortality was found in 1(1%) patient in this study. No significant perinatal morbidity was observed. VBAC rate was significantly more in women who had prior vaginal delivery. In carefully selected cases under strict supervision, trial of labour (TOL) after prior caesarean is safe and often successful. A prior vaginal delivery, particularly, a prior VBAC are associated with a higher rate of successful vaginal delivery.
Keywords: vaginal birth after caesarean section, Trial of labour after caesarean section (TOLAC), Lower segment caesarean section, Repeat caesarean section, maternal morbidity and mortality

INTRODUCTION

Caesarean section delivery is defined as birth of foetus through incisions in the abdominal wall (laparotomy) and the uterine wall (hysterotomy). This definition does not include removal of the foetus from abdominal cavity in case of rupture uterus or in case of an abdominal pregnancy.

The caesarean delivery rate in the United States has steadily increased since 1996 when the rate was 21% [1]. In 2007, the rate was the highest ever recorded at 32%, representing 1.4 million births and a 53% increase since 1996, [1] This trend encompasses increases in the caesarean rate for women of all ages, races, geographic areas, and gestational ages.

Caesarean delivery remains the most major operation in United States, being performed approximately one million times annually [2]. This high incidence is due to better technique, better anaesthetics, different antimicrobial agents, blood transfusion facility, etc. However it must be accepted that Caesarean delivery carries somewhere between 5 to 10 times more risk than that of vaginal delivery [3].

The five most frequent indications for caesarean section are--- (1)Foetal distress,(2) twice post caesarean section, (3) dystocia or failure to progress in labour, (4) malpresentation, (5) performed out of concern for fetal and maternal wellbeing.

The dictum “Once a caesarean section always a caesarean section”, adhered to in USA until recently,

had few advocates in British obstetrics practice [4]. A realistic mortality rate for relatively uncomplicated caesarean section is not easy to determine [4]. In the reports on confidential enquiries into the maternal health in England and Wales 1976-78, the calculated mortality rate for the operation was 0.8 per 1000 caesarean section, which is same as that reported for 1973-75; but in the report for 1982-84 it had fallen to 0.37 per 1000 sections. These figures are about 10 times that for patients delivering per vagina during the same period [4]. Maternal mortality has decreased dramatically in the past 50 years from 650 per 100000 births in 1940 to 14.1 per 100000 live births in 1988. Major sources of operative mortality in women undergoing caesarean delivery were anaesthetic accidents, haemorrhage and infection. Thromboembolic events were the major cause of direct maternal death in the United States and account for a quarter of such deaths.

Many more deaths are associated with emergency caesarean section than with elective procedure. Aspiration of stomach content (Mendelson's syndrome) has markedly reduced due to use of epidural anaesthesia. Haemorrhage, sepsis, paralytic ileus and pulmonary embolism are the other major causes of maternal mortality. Adequate blood, strict use of aseptic techniques during labour and good surgical practice at caesarean section, with seniority of personal matching the risk involved are obvious ways to keep death to a minimum.

In the United States, maternal death associated with caesarean delivery is rare. In 1980 [5] reported a series of 10000 consecutive caesarean sections with no maternal death.

Although maternal death is an infrequent sequel of caesarean birth, the maternal morbidity is increased dramatically compared to the vaginal delivery. Endometritis, haemorrhage, urinary tract infection and nonfatal thromboembolic events are principal sources of maternal morbidity [6].

The risk of rupture of a classical caesarean section scar was reported by Dewhurts to be 2.2% for all cases, 4.7% for those in labour and 8.9% for those delivered vaginally; the figures for the lower segment operation were 0.5, 0.8 and 1.2% respectively.

In present day obstetrics practice, vaginal delivery after first caesarean section in western countries become more popular and considered to be safe over repeated caesarean sections. Scar rupture and dehiscence are two major causes of maternal and foetal mortality in post caesarean pregnancies. In India, it is real due to lack of formal education as well as proper health education and infrastructures, adequate follow up of post caesarean pregnancies become impossible at times.

The patient with more than two caesarean section leads to a probability of myometrial defect which may cause grave emergencies following scar ruptures. So, a thorough and repeated antenatal check-up, early hospitalization and delivery by repeat caesarean section can minimize the morbidity and mortality of both mother and foetus.

In our setup, caesarean sections are performed mostly by young and less experienced obstetricians resulting in failure of proper apposition of the wound edges and prevention of bleeding which leads to haematoma formation near the wound.

Moreover, asepsis and good nutrition are lacking in our patients and becomes factor for threatened scar rupture or incomplete rupture. Complications are high in our place due to illiteracy, poor economic condition, lack of communication facility and admission of patients in the hospital as emergency.

MATERIALS AND METHODS

The study was conducted on 100 selected cases in the department of Obstetrics & Gynaecology, Gauhati Medical College and Hospital, Guwahati who regularly attended outdoor and admitted at term, those who were booked in antenatal clinic but admitted as emergency and those who never attended the antenatal clinic but admitted as emergency over a period of 1 year w. e. f January 2015 to December 2015.

The cases were examined thoroughly and assessed clinically recording all information considered important from the history and doing all investigations needed. After proper assessment and evaluation, the cases were allowed vaginal delivery or performed caesarean section as per necessity.

Regular admissions are given in antenatal clinic from 8am to 2pm. But, a large number of cases are admitted directly into the labour room as emergency. Post caesarean cases are admitted between 36^{th} to 38^{th} weeks of gestation. The cases which show abnormality are admitted immediately irrespective of period of gestation.

In the cases undertaken for study, after admission into the ward, a detailed case history was recorded in a special pro-forma noting the hospital no., registration no., MRD no, name, age, etc., history of previous caesarean section, name of surgeon, indication, place, complications during pregnancy, labour and also post partum period up to puerperium. General examination, breast examination, obstetrical examination and systemic examination were carried out

for diagnosis. After completing the investigations, cases were assessed and managed by vaginal delivery, repeat elective caesarean section, repeat emergency caesarean section or laparotomy with repair of the uterus or subtotal hysterectomy. Vaginal delivery is tried in selected cases, where the previous caesarean section was done other than the bony contraction. The uterine scar must be healthy and labour is very closely monitored with partograms and clinical observations for progress of labour. Forceps or ventouse were applied for vaginal delivery. Frequent examination to exclude uterine scar dehiscence or impending rupture are necessary. Any wound infection during convalescence, febrile puerperium, severe anaemia etc. in the previous caesarean section give an unhealthy scar. In these cases vaginal delivery may predispose to rupture or dehiscence to the uterine scar. Other contraindications for vaginal delivery are—any degree of disproportion, deflexed head or floating head at term, any abnormal presentation, past history of prolonged labour with traumatic vaginal delivery, etc. In the present study, caesarean section was contemplated if any deviation from normalcy was detected such as signs and symptoms of wound dehiscence, scar tenderness, failure of labour despite good uterine contractions within 6-8 hours, etc.

After successful vaginal delivery, digital exploration of the lower uterine segment was done to exclude any scar dehiscence or rupture of the scar.

Baby care was provided by the paediatrician and resuscitated if needed, noting sex, weight, maturity, date and time of delivery and Apgar score.

After caesarean section or vaginal delivery, patients were observed closely for complications. Vaginal delivery cases without complications were discharged after 48 hours. But, post caesarean section who were without complications were discharged on 4^{th} or 5^{th} day post operatively.

RESULTS

Most of the patients were of the age group 26—30 years(45%) and 71(71%) patients were para one. 20% patients had vaginal delivery and 80% patients had repeat caesarean section. Duration of labour in vaginal delivery were varied from 8 hours 5 minutes to 16 hours 25 minutes, with 10 hours 45 minutes average duration of labour. Out of 100, 32 cases were selected for vaginal delivery, but vaginal delivery were successful in 20(62.5%) cases (14 spontaneous, 4 forceps delivery and 2 ventouse delivery). Repeat caesarean section were performed in 12 (37.5%) cases after failure of vaginal delivery. Out of 100 cases, 68 were selected for repeat caesarean section at the time of admission, 30 elective and 38 emergency repeat section. Out of 100 cases, 4 patients had recurrent indications and all of these (100%) had repeat caesarean section, whereas those, who had non-recurrent indication for previous caesarean section. 76 (79.17%) had repeat caesarean section. 85 patients had once previous section and out of which 20 (23.53%) patients delivered vaginally and 15 patients had twice previous section and all (100%) cases had repeat caesarean section. All cases had lower segment caesarean section. 5 cases had repeat caesarean section due to oligohydramnios and in all delivery of the babies were difficult. Mild extension of incision and tear were noticed in 2 cases. Prophylactic J shaped incision was given in 2 cases. Out of 80 cases of repeat section planned, caesarean hysterectomy were performed in 2(2.5%) cases (one total and another subtotal caesarean hysterectomy). Antepartum complications like anaemia (69.72%), antepartum haemorrhage (5.5%), pregnancy induced hypertension (2.75%), intrauterine growth retardation (2.75%), oligohydramnios (5.5%), postdatism (4.59%) and premature rupture of membrane (1.83%) were seen in this study. During labour, 5 patients had scar tenderness and 1 patient had postpartum haemorrhage. 1 patient died during puerperium after ventouse delivery due to broad ligament haematoma. Thus, maternal mortality was found in 1% patient in this study.

Table 1: Age incidence of study population

Age (in years)	No & % of Patients
15—20	8 (8%)
21—25	33 (33%)
26—30	45 (45%)
31—35	13 (13%)
36—40	1 (1%)

Table 2: Distribution of patients in relation to parity

Parity	No & % of Patients
1	71 (71%)
2	19 (19%)
3	8 (8%)
4	2 (2%)

Table 3: Incidence of post caesarean pregnancy at GMCH

Year	Total no of deliveries	Total no of post c.s pregnancy cases	Incidence
1974--1975	4556	110	2.4 %
1999—2000	6841	392	5.73%
2015 (Present study)	15348	884	5.76%

Table 4: Mode of present delivery

Sl no	Mode of delivery	No of patients & Percentage
1.	Vaginal delivery	20 (20%)
2.	Repeat caesarean section	80 (80%)
	a)Elective	30 (37.5%)
	b)Emergency	38 (47.5%)
	c)Emergency after failure of vaginal delivery	12 (15%)

Table 5: No of previous section and nature of present delivery

No of previous Section	Total patients	Delivered Vaginally	LSCS	Hysterectomy
One	85	20 (23.53%)	63 (74.12%)	2 (2.35%)
Two	15	Nil	15 (100%)	Nil

Table 6: Types of operation

Total No	LSCS	Classical	Hysterectomy
80	78(97.5%)	Nil	2(2.5%)

Table 7: Foetal presentation and mode of delivery

Presentation	Total cases	Vaginal delivery	Repeat cs
Cephalic	95	20 (21.05%)	75 (78.95%)
Breech	1	nil	1 (100%)
Transverse	3	nil	3 (100%)
Face	1	nil	1 (100%)

Table 8: Booked and Unbooked cases

Sl. No.	Nature of admission	No. of patients	Percentage
1	Booked	46	46%
2	Booked but admitted as emergency	7	7%
3	Un booked admitted as Emergency	47	47%

CONCLUSION

Vaginal delivery may be allowed in a good number of selected patients after proper clinical assessment under strict supervision in patients with previous once caesarean section and maternal mortality can be brought down significantly by doing elective and emergency repeat caesarean section in patients with more than one previous caesarean section.

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